REMARKS

Claims 9-12 are pending in the present application. Claim 9 was amended. Reconsideration of the claims is respectfully requested.

More specifically, in response to the Examiner's objection, the term "first topic" has been replaced by the term "particular prespecified topic". Also, use of the term "topic" at page 3, line 1 of Applicants' amendment mailed August 11, 2004 (hereinafter "Amendment of August 11, 2004") has been clarified by amendment of Claim 9. In addition, multiple paragraph indentations have been used in both the selecting and communicating steps of Claim 9, to more easily follow the respective features recited herein.

Comments and remarks set forth in Applicants' Amendment of August 11, 2004, including the summary of the invention on pages 6-7, are incorporated herein by reference.

I.   **35 U.S.C. § 103, Obviousness**

The Examiner has rejected Claims 9 and 12 under 35 U.S.C. § 103, as being unpatentable over U.S. Patent No. 5,608,874, to Ogawa et al.

The Examiner has rejected Claims 10 and 11 under 35 U.S.C. § 103, as being unpatentable over the Ogawa Patent in combination with U.S. Patent No. 6,421,570, to McLaughlin.

These rejections are respectfully traversed.

In making their invention, Applicants recognized that in an arrangement for directing data messages from publishers to subscribers, it could be very useful to carry out access control on the basis of particular topics. Applicants recognized further that it would be very desirable, in connection with this objective, to use the same topic for a multiplicity of different message formats in a message broker. These conclusions of Applicants are set forth in the application, such as at page 10, lines 2-17:

> Because the topic needs to correspond to the format in both of these cases,
> this can cause many problems. For example, it is very useful to carry out
> access control on a topic basis. That is, when deciding which subscribers

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can have access to which published messages, it is very useful to be able
to use the topics of the messages to make such access control decisions.
However, when the topics must be different for essentially the same group
of messages because of format changes, such access control decisions
become much more complex.

It would be clearly desirable to be able to use the same topic for a variety
of different message formats in a message broker, but the present state of
the art does not allow for this. (Emphasis added)

In view of these conclusions of Applicants, the invention provides a message

broker that has a publish/subscribe capability, wherein the publisher, broker and

subscriber can use the same topic name, even though the messages sent under this topic

will be of different formats. This is achieved by including multiple publication points

within the broker, all of the publication points being dedicated to the same topic, but each

publication point being alternatively selectable by a publisher as the entry point data

processing node of the broker. These teachings of Applicants are set forth, for example,

at page 11, lines 16-27 and at page 12, lines 1-2 of the application:

Thus, the present invention provides a message broker having a
publish/subscribe capability where a publisher application can publish
messages in a manner which is most convenient to that publisher
application, and a subscriber application will receive such published
messages after the messages have undergone specific data processing, all
without the need for the topic names used by the publisher application,
broker and subscriber application to be modified. For example, the
publisher, broker and subscriber can use the same topic name even though
the messages sent under this topic will be of differing formats. The
presence of multiple publication points, selectable by a particular
publisher application, within the broker provides for this ability.
(Emphasis added)

In accordance with these teachings, Figure 3 of Applicants' drawings shows a

broker 32 having a plurality of publication points 323 and 324, either of which can be

used as an entry point for data processing by a publisher application. The publication

points 323 and 324 both pertain to the same topic. However, a message directed to one

of the publication points will be processed very differently from a message directed to the

other publication point. This result is achieved by providing different data processing

nodes in the data flow paths that respectively originate from publication points 323 and 324. For example, Figure 3 shows that the data processing node 321 is included in the processing path that has publication point 324 as its point of entry into broker 32. However, the data path originating at publication point 323 does not include processing node 321. By providing the configuration of Figure 3, Applicants are able to realize their objective, stated above, of using the same topic for a variety of different message formats in a message broker. These teachings of Applicants are further emphasized in the application, such as at page 14, lines 8-23:

> When one of the publisher applications 31a and 31b communicates with the broker 32 in order to publish messages thereto, the publisher application specifies a particular publication point (e.g., 323 or 324) as the point of entry into the message broker 32. A publication point data processing node (or "publication point" for short) is a data processing node which acts as a point of entry for published messages in a message flow of data processing nodes making up a message broker. That is, each publication point is at the beginning of a specific data processing path through the broker. A publisher application selects a publication point depending on which particular desired path the published messages should take depending on the nature of the published messages and the nature of the processing that will be carried out on that path. (Emphasis added)

In view of Applicants' teachings and in order to achieve their intended results, Claim 9 recites, *inter alia*, the step of selecting a specific publication point data processing node of the broker from amongst a plurality of such publication point data processing nodes. Claim 9 further recites that each of the publication point data processing nodes has the following features:

(1)   Each of the plurality of publication point data processing nodes is dedicated to the same particular prespecified topic. (Hereinafter "Feature (1)")

(2)   Each of the publication point data processing nodes is an entry point data processing node of the broker.

(3)   Each such entry point node is followed by a series of other data processing nodes, where each node in the series carries out a specific data processing operation on the data message.

(4)   Each publication point data processing node of the plurality of

publication point data processing nodes is followed by a series of data

processing nodes unique to the respective publication point data

processing node. (Hereinafter "Feature (4)")

Claim 9 is considered to patentably distinguish over the Ogawa et al. reference,

particularly in reciting, in the over-all combination of Claim 9, the Feature (1) set forth

above, and also in reciting the above Feature (4). Principal components of the Ogawa

arrangement, shown in Figure 1 thereof, comprise provider sections 10, a main

processing section 20, and subscriber sections 30. The general operation of the Ogawa

arrangement is described at col. 9, lines 6-22:

> In a typical pattern of information flow, a Provider Data File
> originating on Computer 52A of Provider Section 10 is sent via Modem
> 54J and Telecommunications Link 11 to Main Processing Section 20 via
> an array of one or more Modems 54A through 54I and Multiplexers 74
> coordinated by one or more ComServer Hosts 76A, 76B, 76C. After the
> data file is processed in an associated one of PrepServer Host 78A, 78B,
> 78C, the data, now in the form of a MidFormat File, is sent via one or
> more ComServer 76A, 76B, 76C, and the multiplexed array of one or
> more Modem 54A through 54I, through Telecommunication link 21 to
> Subscriber Section 30, where the data is further translated, if necessary,
> and utilized within a computer application. Box 40 represents the
> numerous other Provider Sections and Subscriber Sections with which the
> system may simultaneously or sequentially interact.

The above disclosure from Ogawa very clearly teaches that data from a provider

section 10 flows to main processing section 20 through "one or more Modems 54A

through 54I and Multiplexers 74", in connection with one or more hosts 76A-76C. After

the data is processed in a host 78A-78C, it is sent to a subscriber section 30, again

through one or more hosts 76A-76C, multiplexers 74A-C and the modems 54A-I. It is

readily apparent from this disclosure that Ogawa provides an arrangement, for setting up

data flow paths from provider sections 10 to respective subscriber sections 30, that is

intended to have a high degree of flexibility. That is, a data path could be set up between

a particular provider 10 and subscriber sections 30, wherein the data path through

processing section 20 could be arbitrarily formed using any of numerous different

combinations of modems 54A-I, hosts 76A-C, and hosts 78A-C.

Patentability of Claim 9 Feature (1)

Applicants consider that Ogawa fails to show or suggest the above Feature (1) of Applicants' Claim 9, whereby each of the plurality of publication point data processing nodes of the Claim 9 combination is dedicated to the same particular prespecified topic. As indicated above, this Feature (1) is essential to achieve Applicants' purposes. However, to the extent that there is any equivalence between Applicants' Claim 9 and the arrangement taught by Ogawa, the structures of Ogawa that are most equivalent to the publication point data processing nodes recited in Claim 9 would be the modems 54A-I of Ogawa, or possibly the hosts 76A-C thereof. It is very clear that the Ogawa reference does not teach that a plurality of these elements is in any way dedicated to a topic that is the same for all elements of such plurality. In fact, there is no teaching anywhere in Ogawa that even a single one of such elements, that is, modems 54A-I and hosts 76A-C, is dedicated to a particular topic.

Moreover, imposing Feature (1) of Claim 9 on the teachings of Ogawa would clearly be detrimental to the Ogawa arrangement. If a plurality of the modems 54A-I or hosts 76A-C were all dedicated to a particular prespecified topic, such components could not be used for a data path that was not related to the topic. This would place a constraint on the operation of the Ogawa arrangement that would seriously diminish the intended flexibility of main processing section 20, in setting up data flow paths between publishing sections 10 and subscriber sections 30. Accordingly, the clear and fair teachings of the Ogawa reference, as well as essential requirements thereof, direct away from an essential feature of Applicants' Claim 9.

Applicants have carefully reviewed the Office Action in regard to the Feature (1) of Claim 9 discussed above. On the basis of such review, it does not appear that the Examiner has cited any portion of Ogawa that, in his opinion, discloses this Feature (1). Applicants note that the portion of the text in Claim 9 that is adjacent to Feature (1) has been quoted in the Office Action, along with a citation to col.8 line 1-col. 10 line 42 of Ogawa. However, Feature (1) appears to be left out of this quotation, which is set forth in the Office Action as follows:

selecting a specific publication point data processing node of the broker from amongst a plurality of such publication point data processing nodes, []a publication point data processing node being an entry point data processing node of the broker, such entry point node being followed by a series of other data processing nodes where each node in the series carries out a specific data processing operation on the data message, where each publication point data processing node of said plurality of publication point data processing nodes is followed by a series of data processing nodes unique to the respective publication point data processing node (provider node sending to main processing section ComServer Host for translation and transmission to subscriber) (at least col. 8 line 51 – col. 10 line 42)

In the above quotation of Applicants' Claim 9, Feature (1), if it were present, would be located between the two square brackets shown in such quotation.

In the Amendment of August 11, 2004, the above Feature (1) of Claim 9 was addressed by Applicants, at page 6, first full paragraph. Therein, Applicants stated the following:

The invention is specifically concerned with a publish/subscribe message broker, such as 32, as shown in Fig. 3, where a publisher application 31a can select amongst a plurality of publication points(323, 324), where each of the publication points is dedicated to a particular topic (e.g., that topic of IBM stock is given in the specification.) (Emphasis added)

In the Office Action, the Examiner apparently responded to the above statement of Applicants by stating the following:

Applicants argue Ogawa does not teach selecting one publication point from a plurality of such publication points dedicated to the same topic. However, Ogawa teaches the pre-processor and main processing section (broker) manipulating and translating data according to the provider and according to rules found using subscriber translation information. As such, the subscriber in Ogawa could get the same data from a different provider and not know it as long as the data is formatted and translated accordingly. In fact, Ogawa's system allows only one provider to be necessary, while the pre-processor and main processing section (broker) deciding the type of format to translate for the subscriber.

Applicants, with all due respect to the Examiner, do not understand from the above statement of Examiner how teachings of Ogawa show or suggest the above Claim

9 Feature (1), that is, the feature of a plurality of publication point data processing nodes being dedicated to the same particular prespecified topic. For example, in the above statement it is acknowledged that Ogawa is allowed to have only _one_ provider. In contrast, Applicants' Claim 9 requires a _plurality_ of publication point data processing nodes.

Patentability of Claim 9 Feature (4)

Applicants consider that the Ogawa reference likewise fails to show or suggest the above Feature (4) of Claim 9. In accordance with Feature (4), _each_ publication point data processing node, of the plurality of publication point data processing nodes, is followed by a _series_ of data processing nodes that is _unique_ to the respective publication point data processing node. This is _very different_ from the teaching of main processing section 20 of the Ogawa arrangement. As shown by Figure 1 of Ogawa, three different modems 54 are connected to each host 76, such as modems 54A-C connected to host 76A. Thus, _none_ of the hosts 76A-C is unique to _any_ of the modems that it follows, as required by Feature (4) of Applicants' Claim 9. Any such uniqueness would, of course, be undesirable in the Ogawa arrangement. Such feature, as discussed above in connection with Feature (1) of Claim 9, would _diminish the flexibility_ intended for Ogawa's main processing section 20, in configuring and reconfiguring different data flow paths between respective publication sections 10 and subscriber sections 30.

Further Basis for Patentability of Claim 9

Claim 9 is considered to distinguish further over the Ogawa reference by reciting, in the communicating step thereof, the feature of "the broker carrying out the data processing operations corresponding to the _series of data processing node unique to the selected_ publication point data processing node, in order to process the data message in a different way depending on which publication point data processing node is selected even though each of the plurality of publication point data processing nodes are dedicated to said particular prespecified topic". As discussed above, Ogawa fails to show _any_ series of data processing nodes that are _unique_ to a selected publication point data processing node.

Moreover, Ogawa fails to show or suggest the essential teaching of this feature, that is, that data is processed differently, depending on which of the publication point data processing nodes is selected for entry into the broker. As indicated above, this also is an essential feature for achieving the results of Applicants' invention. However, it is very clear from Ogawa that the processing of data entered into the main processing section 20 is completely unaffected by either the particular modem A-I or host 760A-C that is used for the data entry.

Applicants have carefully reviewed Ogawa, col. 15, lines 1-33, cited in the Office Action in regard to this feature. However, Applicants have been unable to find this feature disclosed or suggested in such citation.

Remaining Claims

Claims 10 and 11 respectively depend from Claim 9, and are each considered to distinguish over the art for the same reasons given in support thereof.

Claim 12 incorporates subject matter of Claim 9, and is considered to distinguish over the art for the same reasons given in support thereof.
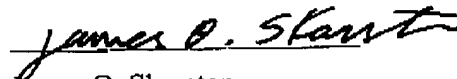
II. Conclusion

It is respectfully urged that the subject application is patentable over both the Ogawa et al. and McLaughlin references, and any combination thereof, and is now in condition for allowance.

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PAGE 13/14 * RCVD AT 2/10/2005 11:31:19 AM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/0 * DNIS:8729306 * CSID:9723857766 * DURATION (mm-ss):04-10

The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

DATE: <u>February 10, 2005</u>

Respectfully submitted,

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